

Recovery Plan Action Status

Plan Name: Final Recovery Plan for Two Plants From Rota

Plan Status: Final

Plan Date: 03-May-07

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(408)

792-9400)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	1.1.	Coordinate recovery actions with other recovery and ecosystem management efforts	Ongoing Current	FY 2007		Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Private landowners, Pacific Islands Fish and Wildlife Office, USFWS, Mariana Public Lands Authority, Rota Forestry Service	Management: General, Management: Habitat Maintenance and Manipulation, Management: Planning, Management: Predator and Competitor Control	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	This is a continual effort with all recovery activities for these species.
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	1.2.	Update or revise recovery plan as needed	Not Started			Pacific Islands Fish and Wildlife Office, USFWS	Research: Competition, Research: Demographic Studies, Research: Disease, Research: Genetics, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Surveys, Research: Predation, Research: Propagation, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	1.3.	Monitor recovery efforts	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS	Research: Competition, Research: Demographic Studies, Research: Habitat Status, Research: Population Surveys, Research: Predation, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.1.1.	Conduct research on Nesogenes rotensis and Osmoxylon mariannense habitat requirements	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Research: Habitat Requirements	Contract, Graduate Student, Internal Field Assistance	
No common name (Osmoxylon mariannense)	1	2.1.3.	Protect, manage, and restore limestone forest habitat of Osmoxylon mariannense	Not Started			Hawaii Department of Land and Natural Resources, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Private landowners, Natural Resource Conservation Service, Pacific Islands Fish and Wildlife Office, USFWS, Mariana Public Lands Authority	Acquisition: General, Management: Habitat Maintenance and Manipulation, Management: Land Use	Contract, Graduate Student, Internal Field Assistance, Species Expert	
No common name (Osmoxylon mariannense)	2	2.1.3.1.	Develop techniques for restoring native forest within the historical range of Osmoxylon mariannense	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Rota Forestry Service	Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Species Expert	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.1.3.2.	Develop and implement a reforestation plan for the Sabana	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Private landowners, Pacific Islands Fish and Wildlife Office, USFWS, Mariana Public Lands Authority, Rota Forestry Service	Management: Habitat Maintenance and Manipulation, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.1.4.1.	Evaluate impact of feral ungulates (deer and pigs) on regeneration of native forest on the Sabana	Ongoing Current	FY 2007		Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Rota Forestry Service	Management: Predator and Competitor Control, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Species Expert	Initiated discussions with DFW to set up ungulate exclosures in near future.
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.2.	Conduct surveys for Nesogenes rotensis and Osmoxylon mariannense in potentially suitable habitat	Ongoing Current	FY 2007		Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS	Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	Initial surveys for both species were done by ES staff.
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.3.1.1.	Conduct research to determine the impact of invertebrates on Nesogenes rotensis and Osmoxylon mariannense populations	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS, Office of Insular Affairs	Research: Predation	Contract, Graduate Student, Internal Field Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.3.1.2.	Conduct research on methods to control invertebrates, if necessary	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division	Research: Management Techniques, Research: Predation	Contract, Graduate Student, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.3.1.3.	Develop and implement an invertebrate control or eradication program, if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS	Management: Predator and Competitor Control, Research: Management Techniques, Research: Predation	Contract, Graduate Student, Internal Field Assistance	

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No common name (Osmoxylon mariannense)	2	2.3.2.1.	Conduct research on Osmoxylon mariannense fruit predators	Not Started			Research Institutions, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS, Office of Insular Affairs	Research: Predation	Contract, Graduate Student, Internal Field Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.3.2.2.	Develop and implement a rat and mouse control or eradication program, if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Office of Insular Affairs, Rota Forestry Service	Management: Predator and Competitor Control, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Osmoxylon mariannense)	2	2.3.3.1.	Conduct research to determine the impact of feral ungulates (deer and pigs) on Osmoxylon mariannense populations	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Research: Predation	Contract, Graduate Student, Internal Field Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.3.3.2.	Conduct research on methods to control feral ungulates	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Research: Management Techniques, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.4.1.	Conduct research to determine the impact of disease on Nesogenes rotensis and Osmoxylon mariannense populations	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Research: Disease	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.4.2.	Conduct research on methods to control disease	Not Started			Research Institutions, U.S. Geological Survey, Biological Resources Division	Research: Disease, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.4.3.	Develop and implement a disease control or eradication program, if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Disease Control, Research: Disease, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	2.5.2.	Conduct research on methods to control Cassytha filiformis	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Research: Competition, Research: Disease, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	2.5.3.	Develop and implement a control program for Cassytha filiformis, if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Disease Control, Management: Predator and Competitor Control, Research: Competition, Research: Disease, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.6.1.	Conduct research to determine the impact of nonnative plants on Nesogenes rotensis and Osmoxylon mariannense populations	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Research: Competition	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.6.2.	Conduct research on methods to control Casuarina equisetifolia	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Research: Competition, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.6.3	Develop and implement a control program for Casuarina equisetifolia if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Research: Competition, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.7.2.	Conduct research on methods to control nonnative plants	Not Started			Research Institutions, Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Research: Competition, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2.7.3.	Develop and implement a control or eradication program for nonnative plants, if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Research: Competition, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	2142 & 2333	Develop and implement a feral ungulate control program, if necessary	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Natural Resource Conservation Service, Pacific Islands Fish and Wildlife Office, USFWS, Office of Insular Affairs, Rota Forestry Service	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Research: Management Techniques, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	3.1.	Develop and implement long-term population monitoring programs for Nesogenes rotensis and Osmoxylon mariannense	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Research: Demographic Studies, Research: Habitat Status, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	1	3.2.1.	Develop collection and propagation protocols and maintain genetic stock of Nesogenes rotensis and Osmoxylon mariannense	Ongoing Current	FY 2007		Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Rota Forestry Service	Management: Reintroduction, Research: Genetics, Research: Habitat Requirements, Research: Propagation, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Lyon Arboretum Micropropagation Lab has attempted micropropagation of seeds, but has not been successful.
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	3.2.2.	Determine locations for augmenting existing populations and establishing new populations of Nesogenes rotensis and Osmoxylon mariannense	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Mariana Public Lands Authority, Rota Forestry Service	Management: Propagation, Management: Reintroduction, Research: Habitat Requirements, Research: Habitat Status, Research: Propagation, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	2	3.2.3.	Develop outplanting protocols for Nesogenes rotensis and Osmoxylon mariannense	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, U.S. Geological Survey, Biological Resources Division, Pacific Islands Fish and Wildlife Office, USFWS	Management: Reintroduction, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Propagation, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.1.1.	Develop educator's packets for elementary to high school students	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Department of Education, Commonwealth of the Northern Mariana Islands	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.1.2.	Develop workshops for teachers	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Department of Education, Commonwealth of the Northern Mariana Islands	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.2.1.	Develop and broadcast Public Service Announcements	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Department of Education, Commonwealth of the Northern Mariana Islands	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.2.2.	Promote a poster and essay contest	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Department of Education, Commonwealth of the Northern Mariana Islands	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.2.3.	Encourage media coverage of environmental issues	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.1.	Establish a series of small community-based native plant nurseries and botanical gardens, or upgrade existing facilities	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Propagation, Other: Information and Education	Contract, Graduate Student, Internal Field Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.2.	Conduct a minimum of one community Native Seed Collection Day a year.	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Propagation, Other: Information and Education	Contract	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.3.	Conduct a minimum of one community outplanting day a year	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Reintroduction, Other: Information and Education	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	

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No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.4.	Promote interpretation and educational programs on the identification and importance of native plants	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.5.	Coordinate community involvement in a minimum of one environmental protection activity a year	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Other: Information and Education	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.6.	Promote the development of nature trails in the Sabana area or other areas rich in native species	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Other: Information and Education	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	
No common name (Nesogenes rotensis), No common name (Osmoxylon mariannense)	3	4.3.7.	Promote the use of native plants in environmentally appropriate landscaping projects	Not Started			Division of Fish and Wildlife, Commonwealth of the Northern Mariana Islands, Pacific Islands Fish and Wildlife Office, USFWS, Rota Forestry Service	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	